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Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended and the Chief of Naval Personnel has concurred that Reserve medical officers now on active duty who desire to submit requests for extension of their active duty for a period of 3 months or more will be given favorable consideration. (Deputy and Assistant Chief of Bureau)

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Irradiation Therapy in Hodgkin's Disease

This article brings up to date the results of irradiation therapy in Hodgkin's disease at the University of Minnesota Hospitals and reviews fundamental concepts on the nature of this disease and its therapeutic management.

The clinical picture in Hodgkin's disease is variable. Enlargement of single or multiple groups of lymph nodes may be the only complaint. Onset may be heralded by weakness, fever, anorexia, nausea and vomiting, weight loss, or pruritus. Cough, dyspnea, cyanosis, or dysphagia may be indicative of mediastinal lymphadenopathy. Pulmonary parenchymal involvement may be accompanied by fever and the lesions may cavitate. Frequent coincident infections include tonsillitis, upper respiratory, otitic, and oral infections. Vertebral or extradural involvement may produce monoplegia or paraplegia. Backache is commonly caused by enlarged retroperitoneal nodes. Localized pain usually precedes actual roentgen demonstration of bone lesions, and bone marrow studies may disclose multiple granulomas. Jaundice may be due to enlarged nodes about the common duct or to actual hepatic involvement. Enlargement of the spleen, invasion

of the stomach and kidneys, as well as involvement of other organs, may be accompanied by clinical findings. Specific skin lesions are not infrequently demonstrated and herpes zoster occurs in some cases.

Microscopic differentiation from other tumors of lymph nodes is difficult. Jackson and Parker would restrict the diagnosis to those cases showing Reed-Sternberg cells. These latter authors describe three histologic patterns which they consider of prognostic importance: Paragranuloma, the early variety, with hyperplasia of adult lymphoid cells, is slowly progressive and may lead, after a variable period of time, to Hodgkin's granuloma, which presents histologic evidence of eosinophilia, necrosis, and fibrosis, with more rapid progression and more serious prognosis. The third type, Hodgkin's sarcoma, is characterized by large tumor cells and Reed-Sternberg cells, with only occasional necrotic areas. This form is rapidly progressive and fatal in a short time.

Hodgkin's disease shows no racial predilection. In America, Negroes and whites are affected to about the same extent. From 62 to 70% of the patients are males (various series). All ages are affected, the maximum incidence being in the third decade.

The apparent site of onset, in 75% of the cases, is in the peripheral nodes, predominantly the cervical. Other less frequent sites of origin include the mediastinal and abdominal lymph nodes, lung, skin, and other organs. The peripheral nodes are ultimately involved in about 98% of the patients, and endothoracic structures in roughly two-thirds. Abdominal nodes will be involved in over one-half of the cases, and the spleen in about one-third (as high as 70% in some series). Bone and skin are involved with moderate frequency (15 to 20% of cases).

In the more recent literature there seems to be general acceptance of the neoplastic nature of Hodgkin's disease. Sahyoun and Eisenberg studied 24 cases of Hodgkin's disease and offered a histopathologic and clinical classification.

Following the tendency to stage some carcinomas clinically, Peters devised a clinical classification for patients with Hodgkin's disease. She listed the following stages according to the extent of involvement on admission:

I. Involvement of a single lymph node region or a single lesion elsewhere in the body.

II. Involvement of two or more proximal lymph node regions of either the upper or lower trunk.

III. Involvement of two or more lymph node regions of both the upper and lower trunk.

In the clinical appraisal of the patients, a thorough history and physical examination are followed by biopsy of tumor tissue and, in some cases, by study of the bone marrow. The latter may be advisable in all patients. It is noteworthy that the disease apparently starts in the peripheral lymph nodes in 70.4% of patients and that sooner or later involvement of one or more groups of superficial nodes occurs in almost all patients. The medi-

astinal and abdominal lymph nodes, lungs, and spleen represent the most frequent internal sites of involvement.

In irradiating patients with Hodgkin's disease, as well as with other malignant conditions, it is essential to attempt to utilize an optimum dosage within certain time limits. The treatment should be individualized. In general, when the disease is localized to one or a few regions, an attempt is made to deliver a minimum of 2,000 tissue roentgens to the tumor in 14 days. In the cervical region, this can be accomplished by giving 900 r in air to each of three fields. Factors are: 220 kv. p., 0.5 mm. Cu plus 1.0 mm. Al filtration, 1.35 mm. Cu h. v. l., 60 cm. distance. Added filtration and increased distance to achieve better depth dose distribution are used for more deep-seated lesions. The authors are now using 250 kv. p., 3.0 mm. Cu h. v. l., and 70 cm. distance. Large masses of long standing may require heavier dosage, but even in the smaller masses, a minimum dose of 2,000 tissue roentgens is desirable. Complete chains of nodes are included in the fields, e. g., the submaxillary, cervical, and supraclavicular chains are irradiated if any node in these areas is involved. So that adequate dosage may be tolerated in areas where disease appears, so-called prophylactic irradiation to other nodal areas is not given.

In patients with widespread disease, less intense or palliative therapy is indicated, largely to ameliorate symptoms. When there is massive involvement of the mediastinal nodes, small doses of 50 to 75 r in air are used initially to obviate possible edematous compression of the tracheobronchial tree. A total tumor dose of 2,000 tissue roentgens is still given within a period of 3 weeks. Total body or spray irradiation is occasionally given in very small doses to patients with widespread involvement. It is in these patients that nitrogen mustards and TEM may be valuable adjuncts.

Special attention should be paid to spinal cord compression caused by Hodgkin's disease. Laminectomy should be performed without delay if symptoms of paresis develop, and the involved area of the cord should then be treated immediately with x-rays.

Results obtained mainly by x-ray therapy at some other medical centers help to show what can be accomplished. Krumbhaar reported a 5-year survival of 15% at the University of Pennsylvania. Slaughter and Craver in a series of 265 patients reported a 5-year survival of 17.7%, with an average survival of 33.8 months after treatment. This series included the 94 patients treated with the Heublein method, in which group there was a 24% 5-year survival. In Peters' series of 113 patients, the 5-year survival was 51%, by far the highest reported to date. Almost all series show an improvement in treated as compared to untreated cases.

The striking results obtained by Peters bear consideration. As she states, comparison of survival rates from various institutions may vary with the material. In recording survivals according to extent of involvement on admission, she notes an 88% 5-year survival in 35 Stage I cases, 72% in 32 Stage II cases, and 9% in 46 Stage III cases. For the patients

followed 10 years or longer, she reports a 79% 10-year survival in 19 Stage I cases and 21% in 19 Stage II cases. None of the 16 Stage III patients lived as long as 10 years. Peters believes that the high survival rate for the entire group was due to the remarkably small proportion of Stage III cases.

The patients studied here have accordingly been staged, with the results tabulated.

The evidence presented would seem to corroborate the clinical opinions so well established by Peters, that clinical staging is the most accurate method by which survival in patients with Hodgkin's disease can be predicted, and that comparison of large series from different medical centers has more meaning if grouping into clinical stages is observed. It has been the authors' experience that patients with malignant lymphoid tumors, regardless of histopathologic diagnosis or grading, may present with localized or disseminated disease.

In most of the literature reviewed, the opinion seems to be that primary surgical excision alone is not the procedure of choice in localized lymphoid tumors. Whether a combination of surgery and irradiation is superior to irradiation alone is still a debatable point in lesions of the peripheral lymph node areas. Surgical excision of primary foci in the gastrointestinal tract and lungs seems quite logical, because the definite diagnosis is made quite often during exploratory operation. Laminectomy seems mandatory in the cases in which compression of the spinal cord is present.

Though the duration from first symptoms to treatment was short in Stage III, indicating a more acute type of disease, it seems that great alertness among physicians may bring these patients to treatment before they have reached this stage. The importance of early diagnosis and treatment is clearly brought out by the statistics.

In Stage I, the treatment of choice is either intensive irradiation or, possibly, surgical excision followed immediately by intensive irradiation. In Stage II, intensive irradiation is the procedure of choice. In Stage III, palliative irradiation to reduce tumor masses or relieve symptoms is indicated. It is in the latter group that the nitrogen mustards and triethylene melamine may serve as useful adjuncts. (Radiology, May 1954, C. M. Nice, M. D. and K. W. Stenstrom, Ph. D. ; University of Minnesota Hospitals, Minneapolis 14, Minn.)

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

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Artificial Respiration by Intermittent Positive Pressure

The most common cause of death from poliomyelitis is respiratory insufficiency. This may be due to spinal paralysis affecting the primary muscles of respiration directly, and it is in such cases that tank respirators have proved of value. In other cases "bulbar" involvement leads to paralysis of the pharynx and larynx, and there is then grave danger of pharyngeal secretions or vomit being inhaled, and causing fatal pulmonary complications. In this type of case the skilled use of postural drainage often enables unobstructed breathing to be maintained.

By far the most difficult and critical problem in management is presented by the "combined case," in which the paralysis is both bulbar and spinal. Some form of artificial respiration is then essential; yet, in spite of postural drainage, the uncompromising inspiratory effort of a tank respirator leads, in the absence of the power of swallowing, to inhalation of secretions and a fatal result. In some American clinics such patients have been treated in tank respirators, with a tracheotomy; but this method involves great difficulties, notably in establishing an airtight seal at the neck without interfering with the tracheotomy.

Recently the authors have treated patients with combined bulbospinal paralysis by artificial respiration with intermittent positive pressure (I. P. P.) a method used by Lassen during the severe epidemic in Denmark in 1952. This method has great advantages and the authors describe how 4 patients were treated in a small respiratory unit established at Oxford to deal with cases of respiratory insufficiency. Not only cases of poliomyelitis but also cases of acute toxic polyneuritis were treated, and the unit has been available for the treatment of respiratory insufficiency from any cause--e. g., after head injury or neurosurgical intervention, in drug intoxication, and in tetanus.

The method of artificial respiration used for these patients has three great advantages: first, a cuffed tube inserted through a tracheotomy wound separates the pharynx from the trachea so that there is no danger of inhalation of foreign material even if the patient vomits; second, it permits secretions to be aspirated readily from the trachea and bronchi; third, it provides a route for artificial respiration by I. P. P. with the attendant advantages, compared with respiration in a tank, of ready access to the patient, and of low cost of apparatus.

Patients with paralysis causing respiratory embarrassment are critically ill, but, as illustrated, if they survive, even those with both bulbar and spinal involvement may make an excellent recovery. Their treatment is a specialized matter and presents many problems which are not commonly met with in other branches of medicine. It is, therefore, best carried out in a special unit whose physicians and (very important) whose nurses are experienced in treating this type of case. A considerable staff of physicians and nurses is required to give adequate treatment in the acute

stage; and, because the number of cases requiring treatment, and therefore the number of staff required, varies greatly from time to time, a unit that is to treat such cases is most conveniently situated in a large hospital which can support a drain on its resources. Moreover it is in large hospitals that the ancillary services required are available.

This recommendation is in accordance with the policy put forward by the Royal College of Physicians and the Ministry of Health. Whether the unit should be situated at a general hospital or a hospital for infectious diseases depends on local conditions. (Lancet, May 8, 1954, A.C. Smith, M.B., D.A.; J.M.K. Spalding, M.A., D.M.; and W.R. Russell, C.B.E., M.A., M.D.; Radcliffe Infirmary, Oxford, England)

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Anticoagulant Therapy in Private Practice

This report reviews the experience of the author in successfully administering anticoagulant therapy to 181 patients with thromboembolic conditions, and demonstrates that anticoagulant therapy is a practical, feasible, and effective form of therapy in private practice in a small community.

Anticoagulant therapy has been administered for the past 6 years to 181 patients with thromboembolic disease. Prior to treatment there were 216 thromboembolic episodes in these 181 patients. There were 5 additional patients who were given anticoagulant therapy to prevent thromboembolism.

There were 105 males and 76 females. The age of the patients varied from 16 years to 88 years. Heparin was administered as an initial anticoagulant to 96 cases (53%) and all received Dicumarol therapy. Of the 181 patients given anticoagulant therapy, major bleeding occurred in 12 patients (7%) and minor bleeding in 36 patients (20%).

No statistically valid conclusions can be drawn from the data in this study other than the observation that anticoagulant therapy can be safely and effectively administered in private practice. The incidence of thromboembolism (0.11%) while on therapy and the incidence of major hemorrhage (7%) are not in excess of and, in most instances, are below the complications reported in other studies.

The effectiveness of the procedure can only be implied from the number of cases here reported. Short-term therapy has been well substantiated by others in larger controlled studies. Ideally, long-term ambulatory anticoagulant therapy should be evaluated by similar controlled and statistically valid studies. This presents great practical difficulties. However, it should be pointed out that of 7 of the author's patients who discontinued therapy against advice, 5 died of thromboembolism in contrast to an incidence of thromboembolism of 0% in those who continued therapy.

The experience of the author confirms that of others that ambulatory anticoagulant therapy properly applied is a life-preserving measure. (Circulation, May 1954, C. A. L. Stephens, Jr., M. D.; St. Mary's Hospital, Tucson, Ariz.)

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The Choice of an Anticoagulant

The anticoagulant of choice should afford the patient the greatest possible protection against thromboembolic complications but, at the same time, it should not be toxic. The convenience of administration, ease of controlling therapy, and suitable laboratory requirements are also to be considered but are of secondary importance.

At the Toronto General Hospital a clinical study of 4 of the currently acceptable anticoagulants was undertaken with the aim of comparing their relative effectiveness and hazards.

From the authors' study no difference was found between the anticoagulants in their ability to prevent further thromboembolic complications. There was a difference, however, in toxic manifestations. Heparin administered intramuscularly caused more bleeding than Dicumarol and phenylindanedione. Accordingly, it seems reasonable that heparin therapy should be reserved for patients requiring rapid initiation of anticoagulant effect. It should then be discontinued when the oral anticoagulant has reduced the prothrombin level sufficiently. Of the oral anticoagulants studied, cyclocumarol caused more bleeding than the other two, probably because of the prolonged action of this drug. Phenylindanedione at first appeared to be a very useful drug with certain minor advantages over Dicumarol. However, the occurrence of 2 cases of agranulocytosis in 261 patients receiving phenylindanedione created doubt about further use of this drug. In the future it may be shown that the risk is not as great as it would appear to be from the authors' series, but it is one that must be considered. From the authors' experience, Dicumarol appears to be the most satisfactory preparation for maintained anticoagulant treatment of thromboembolic disorders. (Am. J. M. Sc., May 1954, K. W. G. Brown, M. D. and R. L. MacMillan, M. D.; Toronto General Hospital, Toronto, Canada)

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Risk of Thromboembolic Complications From Cortisone Therapy

An increased coagulability of the blood has been reported in the hyperadrenal state induced by the therapeutic administration of corticotropin (ACTH) and cortisone. Cosgriff and associates after having encountered a

number of thromboembolic complications during the course of such therapy, considered the possibility that these agents may promote a thrombotic tendency by producing a state of hypercoagulability of the blood.

Because thrombotic complications are more prone to develop in persons with underlying vascular abnormalities or with a history of previous thromboembolic disease, it would appear that the employment of ACTH or cortisone in such thrombophilic individuals demands utmost circumspection. For these cases, Cosgriff has suggested the use of prophylactic anticoagulant therapy during and for several weeks following the course of hormonal therapy. Without clear knowledge of the actual risk involved in the use of ACTH or cortisone, however, it is difficult to establish a basis for preventive treatment which is itself responsible for significant morbidity and mortality. The administration of Dicumarol has been identified as one of the leading causes of death due to drugs. Moreover, from available evidence it cannot be stated unequivocally that the risk of thromboembolic phenomena from ACTH and cortisone presents a more serious threat to recovery than the risk of hemorrhagic complications from Dicumarol. Under certain circumstances the small benefit to be derived from anticoagulant drugs may be completely vitiated by their hazards. In acute myocardial infarction, for example, the incidence of thromboembolism is so low among the milder ("good risk") cases, that the employment of Dicumarol prophylactically in such instances must be regarded as an unwarranted procedure. Similarly, in order to evaluate the need for anticoagulant therapy in patients with underlying vascular disease who are to receive ACTH or cortisone, an idea of the probable incidence of thrombotic phenomena attributable to these agents is necessary. With the widespread employment of ACTH and cortisone and their increasing field of usefulness, the physician will frequently be confronted with the problem of whether or not coexisting disease of the heart or blood vessels represents a contraindication to hormonal therapy. This article, therefore, records the authors' experience in 86 consecutive patients with serious vascular disease who received a course of cortisone in relatively large dosage.

In spite of evidence which indicates that cortisone may produce a state of hypercoagulability of the blood in some patients, the danger of thromboembolic complications from its use must, in the light of present findings, be regarded as relatively slight. Although all of the 86 patients in the present series had serious cardiovascular and/or cerebrovascular disease, no thrombotic episode was observed in any case during the course of hormonal therapy or in the subsequent post-treatment period. In these patients no specific measures were employed to prevent thromboses except for encouragement of active and passive motion and frequent change of position in bed. (Am. Heart J., 3207 Washington Ave., St. Louis 3, Mo., May 1954, H. I. Russek, M. D., B. L. Zohman, M. D., and A. S. Russek, M. D.)

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Viral Hepatitis

The term "viral hepatitis" is used for reference to those forms of hepatitis that are caused by two or more hepatotropic, filterable, infectious agents, not yet identifiable by specific serologic or cultural methods, which produce a systemic disease in which a characteristic type of liver injury is the outstanding result of human infection. As such, the syndrome of "viral hepatitis" includes infectious or infective hepatitis, "catarrhal" jaundice, epidemic hepatitis or jaundice, homologous serum hepatitis or jaundice, post-transfusion hepatitis, post-vaccinal hepatitis, and post-inoculation or syringe hepatitis.

The etiologic agents responsible for the syndromes of hepatitis under consideration have many properties that justify their tentative classification as viruses. A variety of observations indicates that hepatitis viruses possess a high degree of resistance to many agents or conditions that inhibit or destroy most other infectious agents.

Epidemiologic observations and studies in human volunteers provide strong evidence that at least two agents are concerned. The exact relationship between these two viruses, whether different viruses or different strains of the same virus, remains to be determined. For purposes of reference, the broad terms "virus IH" and "virus SH" are suggested as a tentative aid in avoiding confusion resulting from the lack of specific methods for identification of the viruses concerned. As "virus IH" and "virus SH" each may include one or more strains with similar properties, these terms are considered by the author preferable to the more specific and singular implication suggested by the terms "virus A" and "virus B" which have been subsequently suggested by others for reference to "virus IH" and "virus SH," respectively. For the same reason, when characteristic epidemiologic or human volunteers' data are not available concerning one of the hepatitis agents, as often is the case in clinical practice, the broad term of "viral hepatitis" appears preferable.

"Virus IH" (virus A) has been identified primarily with the clinical and epidemiologic syndrome of infectious (epidemic) hepatitis which occurs spontaneously in the form of sporadic cases or epidemics in association with an incubation period varying from 2 to 6 weeks. "Virus SH" (virus B) has been associated with the syndrome of hepatitis that characteristically develops 1-1/2 to 6 months after the occurrence of an opportunity for parenteral entry of the virus. The epidemiologic term "homologous serum hepatitis" unfortunately has acquired a misleading etiologic implication in that it usually has been employed for reference to the hepatitis syndrome occurring after the long 1-1/2 to 6 months' interval. It is emphasized that "virus IH" also may be transmitted by blood or its products and cause "homologous serum hepatitis" after an interval varying between 2 weeks and 2 months. Thus syndromes of hepatitis occurring 2 weeks to 6 months after exposure to blood or its products may be of viral origin and could justifiably be called "homologous serum hepatitis."

Although the properties of the two hepatitis viruses described appear to account satisfactorily for most of the viral hepatitis syndromes ordinarily encountered, the possibility remains that other similar strains of hepatitis virus exist.

Human blood and feces are the only proved sources of hepatitis virus and the agents may be present in these materials in very high concentration. Thus 50 cc. of a 1:1,000,000 dilution of whole blood (0.0001 to 0.00001 cc.) has been shown to be infectious. The viruses apparently may be present in blood or feces in the absence of previous or existing symptoms or signs and the blood or feces carriers may be infectious before, during, or after the occurrence of a clinical illness recognizable as hepatitis. The existence of long-term, asymptomatic blood or feces carriers of hepatitis virus with no history of recognized hepatitis recently has been definitely established. As no host of hepatitis viruses other than man has been recognized, the current concept of epidemiology thus begins and ends with the human host. Either of the recognized viruses may be acquired from human blood but only "virus IH" (A) has been proved to be present in the feces. Neither has been proved to be present in the urine or nasopharyngeal secretions. Most of the naturally acquired infections, sporadic or epidemic, appear to be due to "virus IH" transmitted by the intestinal-oral route by means of food, fomites, water, et cetera. The possible mechanisms of transfer of either of the hepatitis viruses from human blood or its derivatives are multiple. These include transfusion or other injection of human blood, plasma, or serum (or from materials containing or prepared from these substances) and infection from improperly sterilized syringes, needles, lancets, or other instruments that have been in contact with human blood. Recently evidence of in utero transmission from an apparently healthy carrier mother to her fetus has been obtained. This may represent one of the natural modes of transmission of virus (SH) accounting for its survival prior to the "transfusion-needle-syringe era."

Available information concerning the etiology and epidemiology of viral hepatitis, including both infectious hepatitis and homologous serum hepatitis, is reviewed and evaluated. The clinical manifestations of the disease are considered primarily in respect to those infections which present problems in diagnosis and/or which deviate from the usual course of prompt and spontaneous recovery. These include fatal hepatitis, recurrent and/or relapsing hepatitis, prolonged hepatitis, chronic hepatitis, the carrier state, and certain other post-hepatitis states of uncertain relationship. Some of the problems in diagnosis and changing concepts in treatment are presented. An attempt is made to evaluate the present status of the multiple problems associated with the prevention and control of viral hepatitis, particularly in respect to those infections acquired from blood and its derivatives. (Am. J. Med., May 1954, J.R. Neefe, M.D.; Medical School and Hospital of the University of Pennsylvania, Philadelphia, Pa.)

Uses of Iodine^{131}

Radioactive iodine is available as the sodium iodide salt in a very dilute chemical solution. It is so dilute that a quantity of solution containing sufficient radioactivity to ablate completely all functioning thyroid tissue in a normal person contains insufficient iodide to be detectable chemically. Because NaI^{131} is ingested in such chemically minute amounts, even in therapeutic doses, there is no taste or odor to these solutions. Patients who cannot tolerate a saturated solution of potassium iodide or Lugol's solution because of skin eruptions or other reactions can tolerate I^{131} with no untoward reactions because of the minute amount of iodide involved.

Almost all of the I^{131} administered to a patient is either accumulated by the thyroid gland or is excreted in the urine. Thus, of all body tissues, only the thyroid gland and the urinary tract are usually exposed to any appreciable concentration of this isotope. Fortunately, the passage of I^{131} through the urinary tract is rapid, so that no demonstrable renal or bladder damage has been reported.

When I^{131} disintegrates, both beta and gamma rays are emitted. The beta rays penetrate body tissue to a distance of only 2 mm. Only cells within this distance of a collection of I^{131} are injured or destroyed; cells at a greater distance are unaffected. In addition to the limited range of the beta rays emitted, the thyroid capsule per se seems to protect the tissue around it so that the parathyroid glands, imbedded as they often are in the thyroid, remain functionally and histologically normal, even after the thyroid has been completely destroyed by large therapeutic doses of radioiodine.

The gamma rays, on the other hand, penetrate for long distances through body tissue, glass, fluid, and air. The gamma rays are most useful in indicating the presence and concentration of I^{131} in fluid or tissues by means of a Geiger-Müller tube or similar devices. Doses of I^{131} are measured in terms of microcuries (one-millionth of a curie) and millicuries (one-thousandth of a curie). Tracer doses, used for diagnostic purposes, usually range from 5 to 100 microcuries, depending on the test and equipment used. Therapeutic doses may range from 3 or 4 to several hundred millicuries, depending on the condition being treated.

The half-life of radioactive iodine is 8 days. This means that starting with a given quantity of I^{131}, at the end of 8 days half of the I^{131} will have disintegrated and the medium will contain half of the original amount of I^{131}. This is a most valuable time period for clinical use. It is long enough to permit transportation from the few sites of production, standardization, and storage prior to use, with retention of sufficient radioactivity to be clinically useful. I^{131}, even in large therapeutic doses, usually will have decomposed and disappeared from the body within 2 months after ingestion. Thus, radiation exposure to I^{131} is not overly prolonged.

The major diagnostic use of I^{131} at the present time is in assaying the state of function of the thyroid gland. In addition to this use I^{131} also

is used diagnostically in detecting functioning thyroid tissue in other than the usual cervical location. A third diagnostic use of I^{131} which the authors have been exploring is prediction of the benignity or malignancy of thyroid nodules.

I^{131} has been used therapeutically for 3 main purposes: (1) to destroy hyperthyroid tissue and induce a remission to a euthyroid state; (2) to destroy carcinomatous thyroid tissue which has been induced to concentrate the isotope; and (3) to destroy the normal thyroid tissue of patients with severe heart disease, to induce hypothyroidism and myxedema with decreased work for the heart. (Postgraduate Medicine, May 1954, M. Perlmutter and S. L. Slater; State University of New York, New York, N. Y.)

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A Controlled Study of Isoniazid and Iproniazid

Studies of isoniazid and iproniazid were begun in March 1952 at the Municipal Tuberculosis Sanitarium in Chicago. More than 500 patients have been treated. This report of the findings is given at the end of 18 months of experience. Comparisons were carried out with streptomycin and para-aminosalicylic acid and also with placebos as controls.

Experience has indicated that isoniazid is of approximately the same order of effectiveness as streptomycin and para-aminosalicylic acid. In newly admitted, previously untreated patients, the results have been excellent, about 75% achieving moderate or marked clearing on roentgenograms. Among patients who had persisting disease after considerable streptomycin and para-aminosalicylic acid therapy, isoniazid achieved but little improvement as demonstrated by roentgenograms; however, symptomatic improvement occurred in this group and was maintained in the large majority throughout the period of observation. Spread of disease while on isoniazid was uncommon. Toxic effects were negligible.

Results with iproniazid were approximately the same as with isoniazid, but toxic effects were common and troublesome. (Dis. Chest, May 1954, M. R. Lichtenstein, M. D. and E. Mizenberg, M. D.; Municipal Tuberculosis Sanitarium, Chicago, Ill.)

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Edathamil in Lead Poisoning

The treatment of both acute and chronic lead poisoning in children has been unsatisfactory; acute encephalopathy leading to death or gross mental defect occurs in a high proportion of instances, while the less dramatic forms of infantile plumbism have frequently been followed by failure of or-

derly cerebral maturation. Various methods of treatment, such as surgical decompression, measures directed at depositing circulating lead in the skeleton, or deleading with sodium citrate or dimercaprol (BAL) have had little influence on the outcome. Recent publications have suggested that edathamil calcium-disodium (calcium disodium ethylenediamine-tetraacetic acid; Ca EDTA; calcium versenate) is an effective agent in safely and rapidly removing lead from the body.

The drug is absorbed irregularly from the gastrointestinal tract, where it forms complexes with whatever metallic ions are present. Because these usually include small amounts of lead, the lead content of the urine increases, but it is thought that this increase is secondary to increased lead absorption. This point has not yet been adequately explored. Gastrointestinal symptoms, especially diarrhea, have accompanied the use of the drug by mouth.

The drug is generally used in doses of 1 gm. per 15 kg. body weight per day, divided into 2 doses, administered intravenously in 250 cc. of 5% liquid dextrose solution, each dose being given over a period of 1 to 2 hours. Not more than 5 gm. per 15 kg. body weight should be given in any one week, and not over 10 days of consecutive treatment should be given until more is known of the possible toxic effects of the drug. In the Children's Hospital the drug has been used for 3 days, followed by a 3-day rest period, 2 or 3 courses being given each patient.

Edathamil calcium-disodium appears to be a safe agent for rapidly eliminating large amounts of lead from the body. Much of the lead removed probably comes from the soft tissues. Clinical evidence of plumbism rapidly clears with such treatment. After treatment most children will again indulge in pica, and removal of all lead paint from their environment is of great importance. After treatment with edathamil, lead remains in the skeleton, from which it is excreted over a prolonged period. Metabolic stress, such as fever, acidosis, or alkalosis, tends to increase the rate of release of lead from the skeleton and its transportation to soft tissues, thus producing recurrent episodes of lead poisoning. Such metabolic stresses in children who have had lead poisoning within a year should be treated promptly with edathamil.

Since completion of this manuscript an excellent article on this subject by Karpiniski and others has been published. Analyses for urinary excretion of lead following edathamil treatment, measured by two different methods gave results in general accord with those of the present authors. The chemistry and pharmacology of the drug are well discussed, as are methods of analysis. (Am. J. Dis. Child., May 1954, R. K. Byers, M. D. and C. Maloof, M. D.; Children's Medical Center, Boston, Mass.)

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Diagnosis and Treatment of Amebic Liver Abscess

That diagnostic difficulties are attendant upon the management of amebic liver abscess is attested by the frequency with which the condition is discovered at autopsy when the clinician did not suspect its presence. In a group of 40 autopsy cases of liver abscess due to amebiasis studied at the Armed Forces Institute of Pathology the attending physician had the correct diagnosis in only 7 (17.5%). Invasion of the liver undoubtedly occurs in every patient with amebiasis, and many patients with amebiasis have a large, tender liver (hepatomegaly) (43 to 50%). However, the incidence of liver abscess in amebiasis is much less (1 to 18%).

It is agreed that the diagnosis of amebic liver abscess is upon firm ground only when the amebas have been demonstrated in the exudate or by a biopsy from liver or pleura. However, this is an unsatisfactory criterion from the clinical point of view, because adequate therapy should result in resolution of the abscess without need for surgical intervention.

The diagnostic criteria employed by the author are: (1) The presence of the clinical syndrome of amebiasis; (2) demonstration of amebic intestinal lesions by sigmoidoscopic technics or demonstration of Endamoeba histolytica in aspirations or stool; (3) objective evidence of focal hepatic involvement; and (4) unequivocal response to appropriate therapy.

These criteria are essentially in agreement with those established by others, except for the author's insistence upon the presence of the clinical syndrome of amebiasis and evidence of intestinal disease by demonstration of typical lesions or organisms. Fifteen cases of amebic liver abscess fitting these criteria have been seen by the author during the period 1948-1953, and an analysis of their symptoms, physical and laboratory findings, and treatment is the basis for the present report.

In analyzing the clinical aspects of these cases, searching for clues to improve the accuracy of the diagnosis, it became apparent that many of the patients (11) had actually complained of sharply localized pain over some part of the liver, usually anteriorly, and that palpation of the hepatic area disclosed that this area was also the area of maximal tenderness. The other cases (4) complained of diffuse hepatic pain. In all cases the pain radiated to the back, usually straight through, although in 2 cases it ran around the rib margin. In 6 cases this pain also radiated to the clavicle. Palpation disclosed the area of maximal pain to be the area of maximal tenderness, and pressure here reproduced the radiation of pain to back and clavicle. The liver was palpably enlarged in all cases. The pain was constant and often described as sharp. In all cases it was aggravated by movement, jarring, or a deep breath. All of the patients lost weight (more than 30 pounds in 10 cases), and all had fever. In 3 cases an abdominal mass was palpable. In 1 of these the mass was fluctuant. In 1 case edema of the overlying skin and subcutaneous tissues was observed. In 1 instance the

spleen was palpable. All of these cases had intestinal lesions visible on sigmoidoscopic examination, ranging from superficial erosions and miliary abscesses to large ulcerations and, in 1 case, a 5 by 7 cm. ameboma of the rectum.

X-ray examination of the chest was most helpful and revealed elevation of the diaphragm in 10 cases, 8 of these having overlying pleuropulmonary involvement. In 1 case a liver abscess in the left lobe was demonstrated pushing the barium-filled stomach to the left. In 2 cases ancillary evidence of intestinal involvement was demonstrated by barium enema. Leukocytosis above 13,000 was demonstrated in all but 1 of these cases, and all of them had elevation of the erythrocyte sedimentation rate. Noteworthy was the frequency with which liver function tests remained within normal range.

All of these patients were successfully treated with atabrine and carbarsone, surgical incision being required in 2 cases, and thoracentesis in 2 cases. (Ann. Int. Med., May 1954, Col. R. A. Radke, MC, USA, Tokyo Army Hospital, APO 1052, c/o Postmaster, San Francisco, Calif.)

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The Rubella Problem

Prior to 1941 rubella was considered to be a benign and unimportant disease of childhood. During the past 13 years, however, it has been repeatedly indicted as a cause of congenital malformations in the newborn infant. The observations of Gregg and Swan and associates, of Australia, followed by reports from this country and Great Britain, have indicated that rubella in a pregnant woman may result in the so-called rubella syndrome in her newborn infant. This syndrome includes congenital cataracts, deafness, microcephaly, mental retardation, and congenital heart disease. Spontaneous abortions and stillbirths have also been attributed to maternal rubella infection. Thus, this very mild disease of childhood may have serious consequences if contracted during the childbearing period.

This problem has raised important questions about the management of the pregnant women who either has been exposed to, or has developed, rubella. Should gamma globulin be given? How effective is it as a prophylactic agent? Is a therapeutic abortion indicated after the disease has been acquired? To answer these questions a physician should be armed with the following: (1) a knowledge of the clinical aspects of rubella; (2) a knowledge of the limitations of gamma globulin in prophylaxis; and (3) a knowledge of the risk of congenital malformations or stillbirth following maternal rubella infection. In this article these 3 factors are discussed and an attempt is made to answer some of the vital questions raised by the rubella problem.

A variety of considerations may influence the management of the problem. For example, are there religious or other specific contraindications to abortion? Is this the first pregnancy of a healthy, young, recently married woman whose child-bearing future appears bright? Or is the product of conception the result of 15 years of effort by a childless couple in their forties?

Taking everything into consideration, it is obvious that the management of the rubella problem must be individualized in every case. There is no simple formula for the solution. All of the factors listed in this article must be weighed very carefully by both the physician and the patient. In the 2 hypothetical situations that follow, the authors describe their method of handling the problem.

A. In the case of the young, healthy, recently married couple, the decision to give gamma globulin would depend on whether or not they would consent to therapeutic abortion in the event rubella developed. If there were no contraindications to abortion, the authors would advise that gamma globulin be withheld in order not to mask the disease. If, on the other hand, the couple believed that they would not wish an abortion under any circumstances, then the authors would advise that gamma globulin be given. In either situation, if rubella did not occur, then the pregnancy would be allowed to go to term. If the wife developed rubella, it would be the responsibility of the physician to inform the couple about the risk involved. The final decision should be made by the prospective parents.

B. The older couple, childless for 15 years, in all probability would want to take the risk. Consequently, gamma globulin would be given and no abortion would be considered even if rubella developed.

In these 2 hypothetical situations, the authors have assumed intimate exposure to a definite case of rubella. On the other hand, if the contact had been casual, or the diagnosis questionable, then the management would have to be modified accordingly.

The recommendations outlined are based on the authors' current evaluation of the available knowledge. At the present time, the most effective method of attacking the rubella problem is to encourage deliberate exposure to this disease before the child-bearing period. This "active immunization" procedure carries with it the danger of increasing the spread of German measles in the community. Consequently, it must be rigidly controlled in an effort to eliminate this hazard to the pregnant woman. (J. Pediat., May 1954, S. Krugman, M. D. and R. Ward, M. D.; New York University College of Medicine, New York, N. Y.)

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Wounds of the Liver

The present study consists of an analysis of 100 consecutive cases of liver injury admitted to Parkland Hospital, Dallas, Tex., between 1 Jan 1946 and 15 Sep 1953. Admissions to the hospital during this period exceeded 70,000, yielding an incidence of liver wounds of 1.43 per 1,000, or 1 in 700 admissions.

In 60 patients the wound involved the abdomen only, while 30 patients sustained thoraco-abdominal injuries. In the remaining 10 there were separate wounds of the abdomen and thorax. With respect to the liver injury, the right lobe only was involved in 71 cases, the left lobe only in 24 cases, and both lobes in 5.

A study of 100 consecutive wounds of the liver has disclosed a case fatality rate of 10% and a morbidity rate of 44%. Civilian wounds are more favorable than war wounds, both with respect to the severity of injury and the time of institution of treatment. The favorable mortality rate of liver wounds reported in this series is attributed more to the general medical advances of the era than to any special technics in management of the liver wound itself. It is probable that the results are representative of those generally being obtained in other hospitals of the same type throughout the country.

In known or suspected injuries of the liver, early operation is recommended, to be preceded by adequate resuscitative measures. Assuming that a policy of early operation is carried out, the principal factors relating to the outcome are the amount of blood loss, the number and type of associated injuries, and the extent of the hepatic damage.

Approximately half the patients in the series exhibited shock on admission. An average of 2-1/2 pints of blood was given to each of 76 patients. Salt water was also employed liberally, based on the premise that considerable losses of this fluid may be expected in chemical peritonitis. In half the cases active bleeding had ceased at the time of abdominal exploration.

It is apparent that small incised, penetrating, or perforating wounds of the liver possess a pronounced capacity to heal, regardless of the method of therapy employed. Simple perforating bullet wounds tend to seal themselves and to undergo spontaneous cessation of hemorrhage. However, an occasional small wound will bleed profusely or drain bile in large amounts; this seems equally likely in incised wounds and those due to bullets. In sharp incised wounds of the liver, closure by suture is recommended as the treatment of choice. Simple bullet holes without fragmentation and without evidence of active bleeding may be treated by the establishment of drainage alone. When such wounds are bleeding actively, plugs of oxidized cellulose or gelatin sponge may be introduced at the small risk of creating a closed cavity favoring the eventual development of abscess, bile cyst, or hemobilia. Suture of entrance and exit wounds may be accomplished with the same type of risk. Either of these measures is preferable to withdrawal in the face of continuing hemorrhage.

Injuries associated with extensive fragmentation of the liver yield a high incidence of complications regardless of the method of therapy employed. Further improvement of results should be sought in this group. The factors usually responsible for the development of complications are necrosis, infection, and accumulations of bile and blood. The best hope for reduction of complications of this type lies in the more extensive application of debridement and the establishment of better facilities for drainage. The conventional forms of drainage have too often proved to be inadequate. Patients who developed subphrenic abscesses in this series did so in spite of the establishment of drainage. The authors share the views of many authors who have urged the establishment of more liberal drainage. This may be accomplished by the provision of supplementary dependent posterolateral subcostal drainage and the employment of greater numbers of rubber tissue drains both anteriorly and through the flank. In this series, 37 cases were closed without drainage, with no serious mishap. Nevertheless, the incidence of complications related to inadequate drainage is so high that the authors believe that the omission of this step subjects the patient to needless risk. If closure without drainage is ever to be practiced, it should be limited to those instances of small lacerations comparable to the wound of a liver biopsy.

Satisfactory repair by suture may be accomplished in large rents of the liver. Suture methods are also adaptable to bare surfaces which remain following debridement. However, some necrosis of liver tissue may ensue from the introduction of sutures tight enough to control hemorrhage. The complete surface closure of a large hepatic defect may create a closed cavity with ensuing complications related to infection or to the accumulation of bile or blood; the introduction of an intrahepatic drain is recommended as a supplement to closure. (Ann. Surg., May 1954, R. S. Sparkman, M. D. and M. J. Fogelman, M. D.; University of Texas, Dallas, Tex.)

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Intestinal Obstruction

Any patient with intestinal colic, distention, or persistent vomiting must be considered to have an intestinal obstruction until proved otherwise.

Appropriate therapy must be instituted even while the diagnosis is being clarified. Once the diagnosis of obstruction has been established, the decision between conservative or operative treatment must be weighed. Conservative management should always be considered temporary, and if it is selected it must succeed within a short period of time or be replaced by surgical exploration.

The symptoms and signs of intestinal obstruction are well known to most physicians and surgeons. However, alertness as well as knowledge is necessary if the correct diagnosis of this condition is to be made consistently. The most important symptoms--cramping abdominal pain and vomiting--are frequently seen in minor intestinal disturbances, and too often it is not until various palliative medicines have failed to produce improvement that the diagnosis of obstruction is made.

In occlusion of the small intestine, rhythmic waves of peristalsis produce rhythmic, increasingly severe abdominal pain. The waves of peristalsis increase in intensity until, with necrosis of the intestinal wall and exhaustion of its musculature, they gradually diminish.

If the obstruction is high in the small bowel, vomiting appears early, is persistent and severe, and there is little distention. If it is in the lower ileum, vomiting may be late in appearance, but gradually increasing distention becomes evident. The pain in a small intestinal obstruction is centered chiefly above the level of the umbilicus but the distention, if present, is generalized.

The treatment of mechanical small intestinal obstruction in most instances requires emergency surgical intervention. If a period of conservative treatment is decided upon, it must be with the full realization of the risk involved, and with the mental reservation that if relief of the obstruction does not occur within a short time, operation will be performed without further delay.

The length of time during which conservative management can be carried out safely cannot be stated with certainty. It depends upon the judgment of the surgeon and his interpretation of the urgency of the presenting signs and symptoms. More often than not there is no safe period. Certainly in complete mechanical small bowel obstruction, it should never exceed 24 hours without improvement.

Obstruction of the large intestine may be more difficult to recognize than that of the small bowel. Pain is less severe, but distention is more prominent, and vomiting may not occur for several days after the onset of symptoms. Necrosis in the large intestine occurs more rapidly than in the small bowel. Peristaltic sounds are less reliable, and the correct diagnosis may be missed for several days.

The most common cause of large intestinal obstruction is a malignant neoplasm. Because 80% of malignant tumors of the colon occur in the rectum where they can be palpated, or in the sigmoid colon where they can be visualized through a sigmoidoscope, the importance of digital rectal examination and sigmoidoscopic visualization cannot be overemphasized.

There is no conservative treatment for large bowel obstruction. Because of the ball-valve action of the ileocecal valve, an intestinal tube which empties the small intestine has no effect upon the large bowel. All cases of complete large bowel obstruction require surgical intervention. (GP, May 1954, Broadway at 34th St., Kansas City 11, Mo., W.S. McCune, M.D.)

Program
Military Medicine Section, Scientific Assembly, American Medical Association

Wednesday, June 23---9 a.m.

Chairman's Address: Military Medicine Today
Maj. Gen. Harry G. Armstrong, USAF(MC)

The Initial Care of the Severely Wounded
Maj. Curtis P. Artz, MC, USA
John M. Howard, M.D.
Discussion by:
Carleton Mathewson, Jr., M.D.
CAPT Eugene R. Hering (MC) USN

Arterial Grafts in Military Surgery
CAPT Robert B. Brown (MC) USN
Discussion by:
Frank Gerbode, M.D.
Maj. Edward J. Jahnke, Jr., MC, USA

The Tissue Bank in Military Medicine
CAPT E. B. Coyl (MC) USN
LCDR G. W. Hyatt (MC) USN
LT R. W. Kindred (MC) USNR
Discussion by:
Col. Don Wenger, USAF (MC)

Chorioretinal Burns Produced by Atomic Flash
Col. Victor Byrnes, USAF (MC)
David V. L. Brown, M.D.
Heinrich W. Rose, M.D.
Discussion by:
Frederick C. Cordes, M.D.
Capt. William C. Owens, MC, USA

The MEND (Medical Education for National Defense) Program
Stanley W. Olson, M.D.
Discussion by:
Isidor S. Ravdin, M.D.
Joseph C. Hinsey, M.D.

Current Problems in Military Medicine
Frank B. Berry, M.D.

Thursday, June 24---9 a.m.

Election of officers

Clinical Evaluation of a Rapid Test for Selecting Proper Antibiotic Treatment

Lt. Col. Vincent M. Downey, USAF (MC)
Capt. William E. Dye, USAF (MSC)
Roland B. Mitchell, Ph. D.
1st Lt. David S. Hersey, USAF (MSC)

Discussion by:

Lt. Col. Edwin J. Pulaski, MC, USA
Richard A. Kern, M. D.

The Intermediate Coronary Syndrome in Military Personnel

CAPT Ashton Graybiel (MC) USN

Discussion by:

George C. Griffith, M. D.
Col. Byron E. Pollock, MC, USA

The Value of the Double Standard Two-Step Exercise Tolerance Test in Detecting Coronary Disease: A Follow-Up Study of 1,000 Military Personnel

Col. Thomas W. Mattingly, MC, USA
Col. Paul S. Fancher, MC, USA
Lt. Col. Frank L. Bauer, MC, USA
George P. Robb, M. D.

Discussion by:

Col. Marshall E. Groover, Jr., USAF (MC)
Arthur M. Master, M. D.

Human Tolerance in Relation to Destructive Force

Brig. Gen. Otis Benson, USAF (MC)

Discussion by:

CAPT Charles F. Gell (MC) USN
W. Randolph Lovelace, II, M. D.

Medical Experiences in Communist POW Camps in North Korea

Capt. Clarence L. Anderson, MC, USA
Capt. Sidney Esensten, MC, USA
Capt. Alexander M. Boysen, MC, USA
Capt. Gene M. Lam, MC, USA
Capt. William R. Shadish, MC, USA

Military Medicine, Civilian Medicine, and the American Medical Association

Louis H. Bauer, M. D.

Evaluation of Mechanical Abrasion of Acne Scars

This presentation is directed to the evaluation and management of the chronic acne scar by the abrasion technique. This method was developed and introduced by Dr. Preston C. Iverson in 1942, and its value has been proved during the past decade.

The mechanical abrasion of acne scars of the face by the use of manually applied sandpaper is essentially a surgical technique. It is used also for the elimination of traumatic tattoos caused by imbedded foreign bodies due to explosives or "road dirt." The technique is relatively simple, but nevertheless one which requires experience and judgment.

Many procedures--mainly mechanical or chemical--have been used to eliminate the scars and the permanent pits of acne. The mechanical techniques have utilized the principle of scarification of the skin with scalpel blades, razor blades, grouped needles, steel brushes, or abrading stones. The chemical approaches to the problem are those of dekeratinization and exfoliation of the skin with acids. Notably these acids are trichloroacetic acid and combinations of phenols. Cryotherapy by the use of carbon dioxide slush has been extensively utilized. Face lifting has been used in selected cases.

The results by the above approaches to the problem have often been equivocal. Numerous and usually painful treatments over long periods of time have been necessary. Because of the equivocal results obtained by the foregoing techniques, the sanding procedure has met with suspicion and uneasy acceptance. However, the one-stage abrasion technique of acne pits with sandpaper has much to recommend it. The maximum result can usually be obtained in one procedure.

The actual abrasion of the facial skin is not difficult. The choice of anesthesia depends upon the extent of the area to be sanded, plus the emotional stability of the patient. Local anesthesia is desirable in adults when sanding is done for limited areas of pitting or small areas of traumatic tattoos. However, when the entire face is to be abraded, a more thorough and extensive treatment can certainly be given with the use of endotracheal anesthesia. Complete abrasion can be accomplished usually as a one-stage procedure.

The abrasion is done in the following manner. The patient is anesthetized (endotracheal), surgically prepared and draped, and then the skin is abraded with autoclaved sandpaper (Grade 2). The sandpaper is wrapped over a roll of sterile gauze bandage. This is applied to the flat surfaces of the face. For the creases, the sandpaper may be wrapped around a glass suture ampule. The abrasion is continued until the skin has a "furry" appearance.

The capillary bleeding is usually profuse. Most of the epithelial layer is abraded. To control the capillary oozing, a moist gauze pad is firmly

applied to the abraded surface. Other areas of the face are then abraded. The gauze is removed and the area inspected for completeness of the sanding and the elimination of the pits.

When the surgeon is satisfied that the abrasion is complete, the abraded areas are covered with fine-mesh gauze impregnated with petroleum jelly. The dressing should be snugly applied, as it remains in place for 7 to 10 days. If the dressing becomes saturated with exudate, the outer layers of gauze may be replaced after several days. At the end of 1 week, the gauze is gradually removed. If the layer next to the skin is adherent, healing is not complete. The premature removal of the petroleum jelly layer may invite infection, with delay in healing and a poor final result as well.

Much of the redness present when all the gauze is removed disappears in 2 or 3 days. However, some redness persists for several weeks. This is not objectionable as it resembles the ruddiness of a sunburn. Women may use their usual cosmetics when the initial healing period is complete.

Untoward complications have never been observed from the abrasion technique when properly applied. However, if the abrasion is carried too deep, soft pliable scar tissue will develop. This is not unusually objectionable, but it does represent an error in judgment. Keloids have not been observed by the author. (GP, Broadway at 34th St., Kansas City 11 Mo.; M. D. Beers, M. D.) (See also U. S. Navy Medical News Letter, Vol. 22, No. 10, p. 18)

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High Cervical Chordotomy for Relief of Pain

The value of anterolateral chordotomy for the relief of pain in the trunk, pelvis, and legs has long been established. However, for pain in arm, shoulder, and upper chest there has been considerable difference of opinion, not only as to its value, but as to the dangers involved. The authors believe, therefore, that a presentation of their experiences with high cervical chordotomies over the course of the last 12 years may help to solve some of the questions concerned with sections made at the upper cervical levels.

Twelve patients were subjected to unilateral or bilateral spinothalamic chordotomy, either at the second cervical level or between the second and third cervical segments. The majority of the patients had malignant disease. Eight of the 12 patients were completely or very markedly relieved of their pain for the periods they were followed. There was 1 postoperative death.

In all cases, pain involved the shoulder in conjunction with pain in the upper chest or the upper extremity, or both. Thus, in every instance the

nerve root involvement extended up to include the upper thoracic and lower two or three cervical roots, and in some cases it extended higher.

In the authors' hands unilateral high cervical chordotomy, with section of the lateral spinothalamic tract in the second cervical segment, has proved to be a satisfactory means of relieving unilateral pain involving the contralateral upper chest and upper extremity. When pain involves the supraclavicular region and the adjacent cervical region, or if later extension of pain over this region seems likely, posterior rhizotomies in the upper cervical region (second, third, and fourth cervical) ipsilateral to the pain should be carried out in addition to the high cervical chordotomy. It is the authors' opinion that this method of treatment is the ideal one for most varieties of unilateral organic pain which involves the upper extremity, upper chest, and cervical region. (Ann. Surg., May 1954, G. Horrax, M.D. and W. T. Price, Jr., M.D.; The Lahey Clinic, Boston, Mass.)

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Treatment of Ophthalmic Injuries

Transportation of eye-injury cases. --Patients suspected of having intra-ocular injuries must be transported as litter patients with both eyes covered. Eye movement, or the lifting of gear by a patient, can and usually does produce complications with a much more serious prognosis.

Topical use of cortisone in the eye. --Topical cortisone used on herpes simplex corneal ulcers often convert them from a relatively minor superficial ulcer to a deep diffuse inflammation resulting in economic blindness. It is urged that no one except an ophthalmologist prescribe topical cortisone for a corneal ulcer. (LT E. L. Barrett (MC) USNR, USNH, Bremerton, Wash.)

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Military Medicine Section, Scientific Assembly, American Medical Association

The Chief of Naval Personnel has approved this assembly for the awarding of retirement point credits to eligible Naval Reservists in attendance on 23, 24, and 25 June 1954 in San Francisco, Calif. Naval district commandants have been authorized to issue appropriate duty orders without pay for attendance at this meeting. One (1) retirement point credit will be awarded for each of the 3 sessions attended provided that the duration of each session is at least 2 hours and the personnel concerned are not on the Inactive Status List. Not more than 1 retirement point will be credited for any 1 day. (ResDiv, BuMed)

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Active Duty for Training for Ensign 1135 (Medical) Officers

Plans are being developed to establish a special active duty for training program for Ensign 1135 (Medical) officers on 1 July 1954 at naval teaching hospitals. This program will provide 60 days of active duty during their summer vacation for a limited number of these officers who have completed at least their second year of medical school. Participants will receive full pay and allowances of their rank plus authorized travel expenses.

The program is being developed to provide indoctrination and orientation in naval medicine, rotation through the major professional services of a teaching hospital, and the performance of on-the-job training duties commensurate with the individual officer's professional attainment.

All eligible Ensign, 1135 (Medical) officers are urged to take advantage of the summer employment afforded by this program. Applications may be forwarded in letter form to the applicant's naval district commandant at the earliest practicable date. (ResDiv, BuMed)

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From the Note Book

1. Rear Admiral Lamont Pugh (MC) USN, Surgeon General of the Navy returned to Washington from a 15-day visit to Europe. The primary purpose of Admiral Pugh's trip was to attend a medical planning conference of senior medical representatives of the NATO nations which was held in Paris, France, 10-12 May 1954. Following the NATO medical conference, Admiral Pugh proceeded to Moscow, Russia, via Berlin, Germany. After visiting the medical facilities at the American Embassy in Moscow, Admiral Pugh returned to the United States via Helsinki, Finland; Stockholm, Sweden; Oslo, Norway; Amsterdam, Holland; and Paris, France. (TIO, BuMed)

2. Effective 18 May 1954, United Services Life Insurance Company policyowners who are Flight Surgeons or Flight Medical Examiners are not required to pay an extra premium for aviation risk. Policyowners are advised that the reduction in premium payment can be commenced on the first monthly premium due date following 18 May 1954. Subsequent applications from Flight Surgeons or Flight Medical Examiners will not require the extra premium for aviation risk. (United Services Life Insurance Co., Washington, D. C.)

3. One hundred and seventy-five internships offered senior medical students who will be graduated from various medical colleges throughout the United

States this year have all been accepted. This training, under the Navy's Graduate Medical Training Program, will begin 1 July 1954. The students will be appointed Lieutenants (junior grade) in the Medical Corps, Naval Reserve, following graduation and will be ordered into the active military service. They will then be assigned to Naval Hospitals approved for intern training by the American Medical Association's Council on Medical Education and Hospitals. (PIO, DOD)

4. On 17 May 1954, Rear Admiral R. W. Malone (DC) USN, Inspector General Dental, presented a letter of commendation from Admiral Ryan to Commander Jules E. Kneisel (DC) USNR, for his outstanding contributions to the Naval Reserve as Commanding Officer of Naval Reserve Dental Company 4-9. CDR Kneisel, an Associate Professor of Operative Dentistry at the University of Pennsylvania School of Dentistry, organized this company of 58 Ensigns 1135 (Dental) entirely from among the dental students at the University of Pennsylvania. (TIO, BuMed)

5. The U. S. Naval Dental Corps, with a 27% increase in American Dental Association membership, had the second greatest active membership percentage gain among the 59 components of the Association, according to the 15 May ADA News Letter. Only the Puerto Rico Dental Society, with a 33% increase, surpassed the Navy gain. The membership deadline is July 1 for being listed in the 1955 issue of the American Dental Association Directory. (TIO, BuMed)

6. The Dental Division, Bureau of Medicine and Surgery, has scheduled a Seminar for Commanding Officers of Naval Reserve Dental Companies to be held in Washington, D. C. on 4 Oct 1954. The purpose of this conference is to provide indoctrination in the organization, administration, and operation of the Naval Dental Service from the Bureau level, and to acquaint commanding officers with current concepts and trends which affect the Reserve Dental Program. Dental officers who are members of Naval Reserve Dental Companies are eligible to attend the seminar in an active duty for training status as provided by BuPers Instruction 1500.8A. (TIO, BuMed)

7. Lauriston S. Taylor of the National Bureau of Standards has been presented the Henry Harrington Janeway Award for outstanding accomplishments in the field of applications of penetrating radiations in medical science. Mr. Taylor is Chief of the NBS Atomic and Radiation Physics Division. The Janeway Medal is presented annually by the American Radium Society. (NBS)

8. The eighth annual Naval Reserve Public Relations seminar was completed on 8 May 1954 at the Naval Air Station, Norfolk, Va. The participants were

Naval Reserve officers, mostly members of Public Relations Companies of specialist 1655 officers attached to surface divisions plus active duty PIO's of major naval commands. Detailed briefings were given by Chiefs of Bureaus, Heads of special divisions under CNO, and civilian experts in and out of the government. (Public Relations News Letter, 21 May 1954)

9. A relatively benign, perhaps functional, R-E cell hyperplasia appears to underly and to be responsible, at least in part, for the development of abnormally enlarged germinal follicular centers in the chronic splenolymphatic disease, descriptively designated as giant follicle hyperplasia, also known as follicular lymphoblastoma. (Ann. Int. Med., May 1954, T. S. Evans, M. D. and C. A. Doan, M. D.)

10. The principal factor which determines the success or failure in the restoration of function of an injured hand is the degree and amount of scarring or fibrosis which results. The extent or degree of development of the scarring and fibrosis is dependent on many factors from the time of injury through the final stages of rehabilitation. The majority of these factors can be controlled by those involved in the care of the injured hand. (Minnesota Med., May 1954, A. T. Hays, M. D.)

11. Experience during the past 12 years indicates that combined roentgen, orthopedic, and physical therapies offer a better prognosis for the patient with Marie-Strumpell arthritis. (Postgraduate Medicine, May 1954, L. D. Baker)

12. Hernias in infants and children should be repaired at the age at which they are diagnosed because of the high incidence of incarceration in the early months of life. (J. Pediat., May 1954, W. D. Dunavant, M. D. and H. Wilson, M. D.)

13. The incidence and frequency of one or more infections per patient year at specific ages in infancy and childhood for an ambulatory group of 200 children observed for 1,194 patient years are presented in the American Journal of Diseases of Children, May 1954, N. Epstein, M. D.

14. A distinctive ECG pattern found in patients with cerebrovascular accidents consisting primarily of T waves of considerable amplitude and width, long Q-T intervals, and large U waves is described in Circulation, May 1954, G. E. Burch, M. D., R. Meyers, M. D., and J. A. Abildskov, M. D.

15. A symposium on epidemic hemorrhagic fever appears in the American Journal of Medicine for May 1954.

BUMED INSTRUCTION 5605.1A 11 May 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: NavMed publications; list of

This instruction lists by number and title the unclassified NavMed publications currently available to addressees on request, subject to supply limitation and to such restrictions as are noted. BuMed Inst. 5605.1 is cancelled.

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BUMED NOTICE 7303 11 May 1954

From: Chief, Bureau of Medicine and Surgery
To: Activities under the management control and/or financial responsibility of the Bureau of Medicine and Surgery

Subj: BuMed Instruction 7303.9 (Annual estimates of requirements, appropriation 17_1002, Medical Care, Navy, 195_) CH 1

This notice advises addressees of a change of a reference contained in the subject instruction.

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BUMED NOTICE 12275 17 May 1954

From: Chief, Bureau of Medicine and Surgery
To: National Naval Medical Center
Naval Hospitals (continental)

Subj: Industrial Relations Institute Schedule for Fiscal Year 1955; information concerning

Ref: (a) NCPI 230.15-7

This notice announces the Industrial Relations Institute Schedule for the fiscal year 1955. This Institute is further described in reference (a).

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BUMED INSTRUCTION 6230.6 19 May 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Globulin, poliomyelitis, immune (human), Stock No. 1-605-525, for the prophylaxis of acute anterior poliomyelitis in military personnel and in dependents of military personnel

Ref: (a) BuMed Instruction 6230.3 of 5 June 1953, to Commandants, Continental Naval Districts and River Commands
(b) BuMed Instruction 6230.4 of 12 June 1953, to Commandants, 10th, 14th, 15th, and 17th Naval Districts and Commanders, Service Force, Atlantic and Pacific Fleets
(c) BuMed Instruction 6230.5 of 7 July 1953 to All Ships and Stations

Encl: (1) "Agreements Relative to the Provision of Poliomyelitis Immune Globulin and Its Use Against Poliomyelitis," a Statement by the Executive Committee of the Association of State and Territorial Health Officers, published by the Department of Health, Education, and Welfare, 7 April 1954

This instruction provides guidance for the procurement and use of the subject material during the 1954 poliomyelitis season.

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BUMED INSTRUCTION 6230.7 19 May 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Personnel Regularly Assigned

Subj: Korean-type Vivax Malaria; curative treatment of

Encl: (1) Information regarding Korean-type Vivax Malaria

This instruction alerts Medical Department personnel to the need for early detection and curative treatment of patients with Korean-type malaria, with special reference to those who develop clinical symptoms after leaving Korea.

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BUMED INSTRUCTION 6120.10 20 May 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Corps Personnel Regularly Assigned

Subj: Color vision test sets; use of

Ref: (a) Chapter 15, ManMedDept

This instruction announces additional instructions for using color vision test sets and reporting of test results.

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BUMED INSTRUCTION 6222.6 20 May 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Personnel Regularly Assigned

Subj: Venereal disease contact interviewers; training and utilization

Ref: (a) Art. 23-144, ManMedDept
(b) Art. B-2323, BuPers Manual

This instruction provides information regarding the training and utilization of venereal disease contact interviewers.

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BUMED INSTRUCTION 6222.7 20 May 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Personnel Regularly Assigned

Subj: Venereal disease contact interviewing and reporting

Ref: (a) Interviewer's Aid, NavMed P-1288
(b) BuMed Inst. 6222.6
(c) Art. 23-136, ManMedDept
(d) Art. 23-135, ManMedDept

This instruction sets forth the current procedure for venereal disease contact interviewing and reporting required, in order to implement the Eight Point Agreement of 1948, reproduced in reference (a). The "Contact Report Form, Preparation and Routing" section of reference (a) is cancelled

except for the mailing addresses of City and State Health Departments listed at the end of that section, which remain in effect.

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BUMED INSTRUCTION 7303.4A 21 May 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Funds under the appropriation Medical Care, Navy, for ships and fleet operating units

Ref: (a) Chap. 24, ManMedDept
(b) Par. 023304, NavCompMan
(c) Par. 25833-2, BuSandAMan

Encl. (1) Listing of quarterly target amounts
(2) Format for report of estimated obligations
(3) Accounting data applicable to current fiscal year

This instruction revises instructions to ships and fleet operating units on utilization of funds under the appropriation Medical Care, Navy. BuMed Inst. 7303.4 is cancelled.

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PREVENTIVE MEDICINE SECTION

Communicable Disease Control

Evaluation of Gamma Globulin in Prophylaxis of Paralytic Poliomyelitis in 1953

The mass use of gamma globulin as a method to prevent paralysis in poliomyelitis infection was carried out on a large scale in 1953 and was done

as a public health measure in response to a widespread demand and not on an experimental basis. As such, attempts to draw conclusions regarding its efficacy have not been easy and, in many instances, impossible. In any event, the method of analysis of carefully compiled and extensive data on the use of gamma globulin in those epidemic areas and populations where it might have been expected to be effective did not yield statistically measurable results. Therefore, its value in community prophylaxis as practiced during 1953 has not been demonstrated. Nevertheless, the committee cannot say that the use of gamma globulin for this purpose produced no effect.

A serious difficulty encountered in arriving at conclusions about the results of mass use of gamma globulin in 1953 has been the lack of controls. Had such controls been available, the results would probably have been more clear cut and their evaluation easier. To obtain further data on the efficacy of mass use, further adequately controlled studies will be necessary.

On the other hand, the data on the efficacy of gamma globulin in contact use that were accumulated in 1953 are considered to be adequate for reliable conclusions. They indicate that, with the preparations involved and in the dosages used, the administration of gamma globulin to familial associates of patients with poliomyelitis has had no significant influence on: the severity of paralysis developing in subsequent cases; the proportion of nonparalytic poliomyelitis occurring in subsequent cases in which gamma globulin was given before the onset; or the classic pattern of familial aggregation of cases in the country at large.

In view of these conclusions, the committee recommends that a careful reconsideration be given to the present procedures and methods of national gamma globulin distribution and utilization. (Summary of the Report of the National Advisory Committee for Evaluation of Gamma Globulin, J. A. M. A., March 27, 1954)

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Notes Concerning Poliomyelitis

Since 1936, as shown in the following table, there appears to have been a rising incidence in new cases of acute anterior poliomyelitis in the Navy, which may be a reflection of the higher specific rates for the population of the United States in corresponding age groups.

The poliomyelitis season in the Navy is generally from June to December, although seldom is there a month with no cases reported. Over the past 5 years, the peaks have occurred in the months of July through October and have varied from 0.3 per 1,000 average strength in 1950, to 0.5 in 1951 and 1952, computed on an annual basis. It should be recalled that in computing an annual rate, the new cases reported for the month are multiplied by 12

Acute anterior poliomyelitis, new cases and rate per 1,000 per average strength, U. S. Navy 1936-1952

Year	Total		Acute	Acute bulbar	Acute spinal	Acute non-paralytic
	Number	Rate per 1,000	Number	Number	Number	Number
1936	2	.02	2			
1937	6	.04	6			
1938	2	.01	2			
1939	8	.05	8			
1940	5	.02	5			
1941	22	.06	22			
1942	10	0.01	10			
1943	113	0.05	113			
1944	231	0.07	231			
1945	182	0.05	182			
1946	119	0.04	119			
1947	48	0.08	48			
1948	86	0.17	86			
1949	72	0.13		9	43	20
1950	72	0.13		13	40	19
1951	129	0.14		22	72	35
1952	190	0.18		31	108	51

and the strength is the average strength for the month. The peak monthly incidence could, therefore, be expressed as approximately 0.02 and 0.04 new cases per 1,000 average strength.

Detailed statistical reviews of poliomyelitis in the Navy during 1950, 1951, and 1952 have revealed that outbreaks of poliomyelitis occurred at only approximately 5% of ships and stations each year. Between 75 and 80% of the "outbreaks" consisted of a single case. Further analysis led to the conclusion that if the experience of the 3 years is typical there is little likelihood of spread of the disease in military personnel in ships and stations. Only 21 Medical Department personnel were admitted for poliomyelitis during the 3-year period; although the association of cases among such personnel with the care of patients cannot be excluded, it would appear that hospital duty was not sufficiently hazardous to produce recognized spread among attendants of patients.

The evidence to date indicates that gamma globulin, when used after the appearance of a confirmed case, is unlikely to materially reduce the incidence of the disease in naval personnel.

Only 9 naval activities officially requested gamma globulin for the prophylaxis of poliomyelitis in military personnel during 1953. The total amount requested was 166 units.

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Controls on Tattooing

A report of conditions in the 3 tattooing establishments in Charleston, S. C., was submitted recently to the Armed Forces Disciplinary Control Board by the Preventive Medicine Officer of the 6th Naval District. The report included impressions and findings of an inspection party with recommendations for correction of deficiencies.

Common dye pots were found to be in use in all 3 establishments. None of the shops had facilities for proper sterilization of equipment. No running water or other facility for hand washing was available in 2 of the "parlors". The third establishment possessed only a small sink with running cold water.

The inspection revealed that procedures and equipment in all 3 shops were inadequate for, and 2 of the operators were lacking in knowledge of precautions necessary for, tattooing safely.

At one establishment, for example, no running water was available within the shop, which was untidy with floors, walls, and equipment dirty. Necessary washing was performed from a small plastic pot, the contents of which were discolored and smelled of phenol. The instruments used in injecting the dye into the skin were stored in a rack with the needle ends immersed in a solution made from an anti-rust tablet which lacked sterilizing properties. (See Medical News Letter, Vol. 21, No. 5; Vol. 22, No. 9; and Vol. 22, No. 11)

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Diethylcarbamazine in the Control of Filariasis in Tahiti

In the development of the filariasis control program in French Oceania, both drug control by the use of diethylcarbamazine (Hetrazan or Notezine) and mosquito control have been employed.

Annual microfilarial counts were determined for periods of 1, 2, and 3 years following the use of diethylcarbamazine as a microfilaricide in a filariasis control program. Two dosage schedules were employed: (1) Two milligrams per kilogram of body weight 3 times a day for 7 days, repeated at the end of the year on the individuals who remained positive; (2) 2 mg. per kg. of body weight 3 times a day, 1 day each month for a period ranging from 12 to 18 months. The results are recorded in terms of (a) percentage of the population positive for microfilariae, (b) average number of

microfilariae per 20 cubic millimeters of blood, and (c) the frequency distribution in the population of microfilarial counts per 20 cmm. of blood at 6 different levels. The results may be summarized as follows:

Of 145 positive individuals treated with schedule (1), the percentage of positives was reduced to 17.5 at the end of the second year; the average microfilarial count per 20 cmm. dropped from 79 to 0.8; and the frequency distribution results showed marked reductions at all levels, no positives occurring above the 11-30 group of counts.

Field studies in areas where considerable migration of population occurs and where supervision of drug administration was not as rigid as in the above group, likewise exhibited marked reductions at the end of 2 years, but to a lesser extent.

Dosage schedule (2) of 2 mg. per kg. of body weight 3 times a day, 1 day a month, for 1 year gives promise of being a practical method of administering diethylcarbamazine in a filariasis control program.

All data observed following the administration of diethylcarbamazine as employed in this study show marked reduction in the microfilarial rates. Whether these reductions are sufficient to limit the transmission of Wuchereria bancrofti to a level where clinical cases will cease to occur can be determined only by observation over a period of years. (Am. J. Trop. Med. & Hyg., Nov. 1953, J. F. Kessel, G. C. Thooris, and B. Bambridge)

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On-the-job Training of Laboratory Technicians

In accordance with BuMed Instruction 6200.3, the U. S. Navy Preventive Medicine Unit No. 6, Naval Base, Pearl Harbor, T. H., has established an on-the-job training and checking program of laboratory technicians (Hospital Corps) and other personnel engaged in laboratory work.

The purpose of this program is to assist laboratory personnel in checking their performance of duties by means of evaluating their results with specimens that are known to be positive or negative. The following materials are included in the laboratory tests: (a) Exudate from urethra for determination of the presence or absence of Neisseria organisms. (b) Sputa, for acid-fast staining. (c) Stool specimens for identification of ova and/or parasites. (d) Stool specimens or stock cultures of various enteric organisms for generic identification. (A shore-based medical laboratory should be in a position at least to classify an enteric organism into proper genus, e.g., Escherichia, Proteus, Salmonella, Shigella, et cetera, by means of certain basic procedures.)

This program was inaugurated by sending to each medical facility a series of unstained positive and negative slides from urethral exudates. The activity receiving the slides was asked to stain them and to read and return the stained slides with a report of findings. Upon receipt of stained

slides at Preventive Medicine Unit No. 6, each slide will be checked not only to determine the accuracy of the report, but also to evaluate the staining technic. In this manner the trained personnel of this Unit will be able, in the event of unsatisfactory stains, to offer constructive criticism, and positive suggestions for improving staining technics.

This on-the-job training, it is believed, will serve to keep laboratory technicians thoroughly familiar with procedures and technics; will help to correct errors in staining technics; will provide a check on reporting procedures; and, ultimately, will provide the medical officers with more accurate laboratory results.

Venereal Disease Control

Serological Test for Syphilis as a Routine Admission Procedure in Naval Hospitals

The inclusion of a serological test for syphilis among routine admission procedures in naval hospitals is a matter of local custom and is not required except where it has been made a local instruction.

All enlisted naval personnel receive a serological examination on enlistment and re-enlistment; and, in the case of officers, a serological examination is required at appointment and thereafter every 3 to 5 years. Therefore, in the absence of positive clinical indications some naval hospitals may no longer choose to include a serological test among routine admission procedures. This is a matter for local command decision. However, it would appear to be good medical practice to continue to require a serological test as an admission procedure for dependents and other supernumeraries, who otherwise are not likely to receive such an examination.

General Sanitation

Technical Publications of Interest

The Bureau of Yards and Docks has recently published a pamphlet, "Water Supply Systems, U.S. Navy," (NavDocks TP-Pw-12), which supersedes and cancels the circular of information, "Water Supply and Sanitation," (NavDocks P-147, March 1945). The pamphlet deals with the method of determining quality and quantity of potable water, standards for selecting the type of distribution system, and the advantages and methods of utilizing various sources of water.

Additional NavDocks technical publications which are pertinent and which may prove valuable to the Medical Department in special instances are included in the following partially annotated list:

"Biological Warfare Defense" (NavDocks TP-PL-4)

"Chemical Warfare Defense" (NavDocks TP-PL-3)

"Medical and Dental Facilities" (NavDocks TP-Pw-22). Covers Medical Centers, Hospitals, Infirmaries, Dispensaries, and other Medical and Dental Facilities.

"Personnel Protective Shelters" (NavDocks TP-PL-8)

"Pest Control" (NavDocks TP-Pu-2)

"Refuse Disposal" (NavDocks TP-Pu-1)

"Sewerage Systems" (NavDocks TP-Pw-15)

"Special Service Facilities" (NavDocks TP-Pw-13). Covers Assembly Halls, Gymnasiums, Theaters, Athletic Fields, Courts, and Swimming Pools.

"Storage Facilities" (NavDocks TP-Pw-16)

"Storm Drainage Systems" (NavDocks TP-Pw-1)

"Training Facilities" (NavDocks TP-Pw-17). Covers Naval, Naval Reserve, and Marine Corps Reserve Training Facilities.

"Water Supply for Advanced Bases" (NavDocks TP-PL-6)

These technical publications have been distributed. However, additional copies, when required, may be obtained by addressing a request to the nearest District Publications and Printing Office.

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New Water Purification Film Series

A new water purification film series has been produced for the Bureau of Yards and Docks. Medical personnel may find the series valuable in training programs.

Film No. MN7489A, "Introduction", a 10-minute film, demonstrates methods and equipment used in providing safe water to individuals and groups at advance bases.

Film No. MN7489B, "Diatomite Filter System", a 12-minute film, shows the techniques of installation, operation, and maintenance.

Film No. MN7489C, "Vapor Compression Distillation", a 14-minute film, shows the method and equipment used in the conversion of sea water to drinking water.

The series is in color with sound narration. Distribution has been made, and prints are available from local District Training Aids Officers.

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Ship to Shore Potable Water Connection Facilities

Bureau of Yards and Docks Instruction 11330.4 of 20 Apr 1954 to all ships and stations provides instructions for the care and disinfection of facilities used, and the procedures to be followed, in making ship-to-shore

connections with potable water systems. All medical officers and Medical Department representatives afloat, or ashore, where ships may take on potable water, should be thoroughly acquainted with the contents of this instruction. It is recommended that it be added to the list of "Instructions and Notices Pertinent to Preventive Medicine" which appeared in the Preventive Medicine Section of the 5 Feb 1954 issue of the Medical News Letter.

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Sanitary Operation of Fountain Freezers

Enclosure (1) to Navy Ships's Store Office Notice 10480, of 2 Feb 1954, outlines uniform standards for the sanitary installation and operation of fountain freezers dispensing frozen desserts or milk shakes. These procedures were developed through cooperation with the Bureau of Medicine and Surgery and include the current recommendations of the National Research Council.

Medical Department personnel who have the responsibility for the sanitary inspection of such food dispensing devices should ask permission of the Exchange Officer to acquaint themselves with the contents of the notice and enclosure and should be guided by them until publication of a tri-service regulation currently being prepared to cover the operation of such devices.

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Coin-Operated Bulk Vending Machines

Change 60 to Volume VIII of the Bureau of Supplies and Accounts Manual provides a new paragraph, No. 83181, to govern the temporary installation of vending machines on ships. Excerpts from the paragraph which pertains to the sanitary aspects of vending machines are quoted below:

"Ships on which the permanent installation of vending machines is not authorized may enter into agreements with local vendors of soft drinks for the temporary installation of refrigerated cup-type vending machines on board ship during periods when alongside a pier or dock, provided prior approval of the commanding officer of the activity at which the ship is located is obtained, in writing, and provided the machine conforms to the standards of safety and sanitation as approved, in writing, by the commanding officer of the ship. . . . . The agreement must include the following provisions: 1. the vendor will be responsible for the maintenance of the vending machine....."

The Navy is collaborating with the Army and Air Force in the establishment of a set of standards on special food processing and/or vending equipment, based upon the recommendations of the National Research Council. Until that information is published, the medical officer or Medi-

cal Department representative should utilize the applicable portions of the Manual of Naval Hygiene and Sanitation, NavMed P-126 (Rev. 1949) for guidance in general sanitation requirements. The vendor should be held responsible for the sanitation and cleanliness of the machine at all times.

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Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

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